

WHAT IS CLAIMED IS:

1. Physical quantity detection equipment comprising:

a detector for detecting physical quantity, and for outputting a first voltage corresponding to the detected physical quantity;

an amplifier for amplifying the first voltage;

an offset adjustment means for determining a measurement range of the amplified first voltage among a plurality of predetermined measurement ranges, and for outputting a second voltage corresponding to the determined measurement range;

an addition means for subtracting the second voltage from the amplified first voltage, and for outputting the subtracted amplified first voltage, which is in the determined measurement range; and

an output means for outputting the subtracted amplified first voltage to an outside circuit, and for informing the determined measurement range to the outside circuit,

wherein the outside circuit calculates the physical quantity based on the subtracted amplified first voltage and the determined measurement range.

2. The equipment according to claim 1,

wherein the output means controls consumption current, which is consumed in the output means and is supplied to the output means from the outside circuit, and

wherein the consumption current corresponds to the determined measurement range so that the output means informs the determined measurement range to the outside circuit.

3. The equipment according to claim 1,  
wherein the output means supplies current to the outside circuit, and

wherein the supplied current corresponds to the determined measurement range so that the output means informs the determined measurement range to the outside circuit.

4. The equipment according to claim 1,  
wherein the output means modulates the subtracted amplified first voltage with a predetermined frequency corresponding to the determined measurement range, and outputs the modulated subtracted amplified first voltage to the outside circuit so that the output means informs both the subtracted amplified first voltage and the determined measurement range to the outside circuit.

5. The equipment according to claim 1,  
wherein the output means includes a first circuit for outputting the subtracted amplified output voltage to the outside circuit and a second circuit for outputting a range signal corresponding to the determined measurement range to the outside circuit so that the output means informs the determined measurement range to the outside circuit.

6. A method for detecting physical quantity comprising the steps of:

detecting physical quantity, so that a first voltage corresponding to the detected physical quantity is outputted;

determining a measurement range of the first voltage among a plurality of predetermined measurement ranges, so that a second voltage corresponding to the determined measurement range is outputted;

subtracting the second voltage from the first voltage; and  
outputting the subtracted first voltage and an information about the determined measurement range.

7. The method according to claim 6,

wherein the subtracted first voltage and the information about the determined measurement range are detected by an outside circuit so that the outside circuit calculates the physical quantity based on the subtracted first voltage and the information about the determined measurement range.

8. The method according to claim 6,

wherein the outputting step further includes the step of:  
controlling consumption current, which is consumed in a circuit that provides the outputting step and is supplied from an outside circuit,

wherein the consumption current corresponds to the determined measurement range so that the outside circuit calculates the physical quantity based on the subtracted first voltage and the determined measurement range.

9. The method according to claim 6,

wherein the outputting step further includes the step of:

supplying current to an outside circuit,  
wherein the current corresponds to the determined measurement range so that the outside circuit calculates the physical quantity based on the subtracted first voltage and the determined measurement range.

10. The method according to claim 6,  
wherein the outputting step further includes the steps of:  
modulating the subtracted first voltage with a predetermined frequency corresponding to the determined measurement range; and  
outputting the modulated subtracted first voltage to an outside circuit so that the outside circuit calculates the physical quantity based on the modulated subtracted first voltage.

11. The method according to claim 6,  
wherein the physical quantity is pressure, temperature, position, velocity, acceleration, angle, angular speed, or angular acceleration.

12. The method according to claim 6,  
wherein the determining step and the subtracting step are performed by hard ware or soft ware.